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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,768	03/22/2004	Junji Nakamura	04-234	1247

34704 7590 01/10/2006  
BACHMAN & LAPOINTE, P.C.  
900 CHAPEL STREET  
SUITE 1201  
NEW HAVEN, CT 06510

EXAMINER

JOHNSON, JONATHAN J

ART UNIT PAPER NUMBER

1725

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/805,768

Applicant(s)

NAKAMURA, JUNJI

Examiner

Jonathan Johnson

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 2-6 and 13-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 7-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5-14-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Claims 1 and 7-12 in the reply filed on 10-24-05 is acknowledged.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 7-12 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,918,529 (Tsukaguchi). Tsukaguchi teaches a metal/ceramic bonding substrate wherein a metal member is bonded to at least one side of a ceramic substrate (10) via an active metal containing brazing filler metal (12), the method comprising the steps of: bonding a metal member to at least one side of a ceramic substrate via an active metal containing brazing filler metal (claim 1); applying a resist on a predetermined portion of a surface of the metal member to etch a part of the metal member (16), and removing the resist; etching a part of a metal layer, which is mainly formed of a metal other than an active metal of the active metal containing brazing filler metal (figure 2b, item 14), with a chemical; and selectively etching a part of an active metal layer, which is formed of the active metal and a compound thereof, with a chemical which inhibits the metal

Art Unit: 1725

member and the metal layer from being etched and which selectively etch the active metal layer, to form a metal circuit on the ceramic substrate (figure 3a, item 12); wherein said chemical for selectively etching said active metal layer contains a compound forming a complex with said active metal, an oxidizer and an alkali (col. 7, ll. 1-60), wherein said alkali is one selected from the group consisting of ammonia, sodium hydroxide and potassium hydroxide, or a material being alkaline when it is dissolved in water (col. 7, ll. 1-60); wherein said compound forming a complex with said active metal is an acidic compound (col. 7, ll. 1-60) wherein said acidic compound is a carboxylic acid type compound (col. 7); wherein said acidic compound is one selected from the group consisting of citric acid, diethylenetriaminepentaacetic acid (DTPA), ethylenediaminetetraacetic acid (EDTA), hydroxyethylethylenediaminetriacetic acid (HEDTA), 1,3-propanediaminetriacetic acid (1,3PDTA), nitrilotriacetic acid (NTA) and hydroxyethylidenediphosphoric acid (HEDT) (col. 7, l. 20-35); wherein said oxidizer is one selected from the group consisting of hydrogen peroxide, potassium dichromate and potassium permanganate (col. 7, ll. 5-67).

Claims 1 and 7-12 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,613,450 (Tsukaguchi). Tsukaguchi teaches a metal/ceramic bonding substrate wherein a metal member is bonded to at least one side of a ceramic substrate (10) via an active metal containing brazing filler metal (12), the method comprising the steps of: bonding a metal member to at least one side of a ceramic substrate via an active metal containing brazing filler metal (claim 1); applying a resist on a predetermined portion of a surface of the metal member to etch a part of the metal member, and removing the resist; etching a part of a metal layer, which is mainly formed of a

Art Unit: 1725

metal other than an active metal of the active metal containing brazing filler metal (figure 2, item 14), with a chemical; and selectively etching a part of an active metal layer, which is formed of the active metal and a compound thereof, with a chemical which inhibits the metal member and the metal layer from being etched and which selectively etch the active metal layer, to form a metal circuit on the ceramic substrate (figure 3, item 12); wherein said chemical for selectively etching said active metal layer contains a compound forming a complex with said active metal, an oxidizer and an alkali (col. 6, example 1); wherein said alkali is one selected from the group consisting of ammonia, sodium hydroxide and potassium hydroxide, or a material being alkaline when it is dissolved in water (example 1); wherein said compound forming a complex with said active metal is an acidic compound (example 1); wherein said acidic compound is a carboxylic acid type compound (example 1); wherein said acidic compound is one selected from the group consisting of citric acid, diethylenetriaminepentaacetic acid (DTPA), ethylenediaminetetraacetic acid (EDTA), hydroxyethylethylenediaminetriacetic acid (HEDTA), 1,3-propanediaminetriacetic acid (1,3PDTA), nitrilotriacetic acid (NTA) and hydroxyethylidenediphosphoric acid (HEDT) (example 1); wherein said oxidizer is one selected from the group consisting of hydrogen peroxide, potassium dichromate and potassium permanganate (example 1).

### ***Conclusion***


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 1725

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177. The examiner can normally be reached on M-Th 7:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jonathan Johnson  
Primary Examiner  
Art Unit 1725

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